

REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims are respectfully requested.

Status of Claims

Claims 44-81 are pending in the application.

Claims 44, 46, 49, 50, 52-54, 56, 58-66, 68, 70, 72, 77, 78, 80 and 81 have been amended. No new matter has been added.

It is respectfully asserted that the amendments to claims 44, 46, 49, 50, 52-54, 56, 58-66, 68, 70, 72, 77, 78, 80 and 81 are supported by the Specification and/or Drawings, as originally filed. For example, the amendments to claims 44, 46, 49, 50, 52-54, 56, 58-66, 68, 70, 72, 77, 78, 80 and 81 are supported at least by paragraphs [0018]-[0022], [0024], [0033] and/or [0034]; and/or Fig. 2, as originally filed. Specifically, it is respectfully asserted that transmitting/receiving a multicast transmission over substantially the entire frequency bandwidth of a channel; dividing the frequency bandwidth of the channel into a plurality of frequency sub-channels; and/or transmitting/receiving acknowledgment signals over the frequency sub-channels are supported, for example, at least by Fig. 2 and the accompanying {0116/0575-US0/00018723.1}

description, which clearly describe a multicast packet 210 (Fig. 2) transmitted/received over substantially the entire frequency bandwidth of a channel, and acknowledgment signals 260 (Fig. 2) transmitted/received over frequency sub-channels 250 (Fig. 2) allocated within the frequency bandwidth of the channel. It is respectfully asserted that allocating the sub-channels based on received signal strength of the stations is supported, for example, at least by paragraph [0033].

CLAIM REJECTIONS

35 U.S.C. § 112 Rejections

Claims 44-81 were rejected under 35 USC § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Examiner contended that the limitations relating to the “uplink channel” and “downlink channel” were not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Without consenting to the appropriateness of the rejection it is respectfully asserted that, in view of the amendments to the claims, the rejection of claims 44-81 is now moot.

Accordingly, it is respectfully requested that the rejection of claims 44-81 under 35 USC § 112, first paragraph, be withdrawn.

35 U.S.C. § 102 Rejections

In the Office Action, the Examiner rejected claims 44-58 and 62-81 under 35 U.S.C. § 102(e), as being anticipated by Bing et al. (U.S. Publication No. 2004/0131084 A1). Specifically, the Examiner contended that Bing et al. discloses a method, a processor-readable storage medium, a wireless device and a processor for transmitting between a wireless device and a plurality of stations, including dividing a frequency bandwidth of a downlink channel into a plurality of uplink sub-channels ; allocating an uplink sub-channel from said plurality of uplink sub-channels to each station of the plurality of stations; transmitting said allocation of said sub-channel to the station allocated thereto; transmitting a multicast transmission to the plurality of stations over said downlink channel; and receiving an acknowledgement from a station over said sub-channel allocated thereto.

As is well established, in order to successfully assert a case of anticipation, the Examiner must provide a single prior art document that teaches every element and limitation of the claim or claims being rejected.

As discussed in detail below, Applicants respectfully submit that Bing et al. does not disclose, teach or fairly suggest one or more of the features recited by amended independent claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78. For example, Applicants respectfully submit that Bing et al. does not describe, teach or fairly suggest, dividing a frequency bandwidth of a channel into a plurality of frequency sub-channels, allocating said plurality of frequency sub-channels to the plurality of stations based on received signal strength of the stations, transmitting a multicast transmission to the plurality of stations over substantially the entire frequency bandwidth of the channel, and receiving acknowledgement signals from {0116/0575-US0/00018723.1}

the plurality of stations over said plurality of allocated frequency sub-channels, as recited in paraphrase, by amended independent claims 44, 50, 53, 56, 59, 72 and 78; and/or receiving at a station an allocation of a frequency sub-channel of a plurality of frequency sub-channels within a frequency bandwidth of a channel, wherein said frequency sub-channel is allocated to the station based on a received signal strength of the station; receiving a multicast transmission from the wireless device over substantially the entire frequency bandwidth of the channel; and transmitting from the station to the wireless communication device an acknowledgment signal over the frequency sub-channel allocated to the station, as recited in paraphrase, by amended independent claims 62, 64, 66, 68, 70, 72, and 78.

It is respectfully asserted that, in the portions of Bing et al. cited by the Examiner, Bing et al. merely describes a base station BS communicating with terminals MT1, MT2 and MT3 via a downlink DL from the base station to the terminals, to transmit parallel identical data from the base station to the terminals; and via an uplink UL from the terminals to the base station, to transmit information from the terminals to the base station (paragraph [0037], Fig. 1). Bing et al. also describes coding the information transmitted back from the terminals by varying the physical properties, in particular the energy, frequency or duration of the carrier signals of the connection to the base station (paragraph [0020]). Specifically, Bing et al. describes using a plurality of carriers of an OFDM method to code the information, such that the terminals use different carriers of an OFDM symbol (paragraphs [0020], [0046], Figs. 9, 10, 11). It is respectfully asserted that Fig. 9 of Bing et al. merely illustrates feedback transmission of "ACK"/"NACK" responses from the terminals back to the base station and storage of the responses in a table; and Figs. 10 and 11 of Bing et al. merely illustrate the

{0116/0575-US0/00018723.1}

common access of the terminals to carriers of a common OFDM symbol for transmission of the responses.

Applicants respectfully traverse the Examiner's contention that Bing et al. describes dividing a frequency bandwidth of a channel into a plurality of sub-channels; allocating the plurality of sub-channels to the plurality of stations; transmitting a multicast transmission to the plurality of stations over the channel; and receiving an acknowledgement from a station over the sub-channel allocated thereto.

It is respectfully asserted that Bing et al. does not disclose, teach or fairly suggest at least utilizing a frequency channel for transmission/reception of a multicast transmission from a wireless device to a plurality of stations as well as for transmission/reception of acknowledgments from the stations to the wireless device. Specifically, it is asserted that Bing et al. does not disclose, teach or fairly suggest at least transmitting/receiving a multicast transmission over substantially the entire frequency bandwidth of a channel and receiving/transmitting acknowledgement signals over a plurality of frequency sub-channels within the frequency bandwidth of the channel. More specifically, it is asserted that Bing et al. does not disclose, teach or fairly suggest at least dividing the frequency bandwidth of the channel into the plurality of frequency sub-channels, and allocating the frequency sub-channels to the plurality of stations. It is also asserted that Bing et al. does not disclose, teach or fairly suggest at least allocating the plurality of frequency sub-channels to the plurality of stations based on received signal strength of the stations.

In view of the above, it is respectfully asserted, that Bing et al. fails to teach or fairly suggest all elements of amended claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78, at least {0116/0575-US0/00018723.1}

because Bing et al. does not disclose, teach or fairly suggest dividing a frequency bandwidth of a channel into a plurality of frequency sub-channels, allocating said plurality of frequency sub-channels to the plurality of stations based on received signal strength of the stations, transmitting a multicast transmission to the plurality of stations over substantially the entire frequency bandwidth of the channel, and receiving acknowledgement signals from the plurality of stations over said plurality of allocated frequency sub-channels, as recited in paraphrase, by amended independent claims 44, 50, 53, 56, 59, 72 and 78; and/or receiving at a station an allocation of a frequency sub-channel of a plurality of frequency sub-channels within a frequency bandwidth of a channel, wherein said frequency sub-channel is allocated to the station based on a received signal strength of the station; receiving a multicast transmission from the wireless device over substantially the entire frequency bandwidth of the channel; and transmitting from the station to the wireless communication device an acknowledgment signal over the frequency sub-channel allocated to the station, as recited in paraphrase, by amended independent claims 62, 64, 66, 68, 70, 72, and 78.

Furthermore, it is respectfully submitted that independent claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78 are patentable, and thus allowable, over any combination of the prior art references on record. In this regard, it is noted that the distinguishing features of independent claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78, as discussed above, would not have been obvious at the time the invention was made to a person skilled in the art, in view of Bing et al., alone or in combination with any of the other cited references on record, including the Kapoor et al. reference discussed below in connection with claims 59-61.

In view of the above, it is respectfully submitted that amended independent claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78 are patentable over Bing et al. Accordingly, it is respectfully requested that the rejection of claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78 under 35U.S.C. §102(e) be withdrawn.

Claims 45-49 depend, directly or indirectly, from independent claim 44 and incorporate all the elements of this claim as well as additional distinguishing features. Claims 51-52 depend directly from independent claim 50 and incorporate all the elements of this claim as well as additional distinguishing features. Claims 54-55 depend directly from independent claim 53 and incorporate all the elements of this claim as well as additional distinguishing features. Claims 57-58 depend directly from independent claim 56 and incorporate all the elements of this claim as well as additional distinguishing features. Claim 63 depends directly from independent claim 62 and incorporates all the elements of this claim as well as additional distinguishing features. Claim 65 depends directly from independent claim 64 and incorporates all the elements of this claim as well as additional distinguishing features. Claim 67 depends directly from independent claim 66 and incorporates all the elements of this claim as well as additional distinguishing features. Claim 69 depends directly from independent claim 68 and incorporates all the elements of this claim as well as additional distinguishing features. Claim 71 depends directly from independent claim 70 and incorporates all the elements of this claim as well as additional distinguishing features. Claims 73-77 depend, directly or indirectly, from independent claim 72 and incorporate all the elements of this claim as well as additional distinguishing features. Claims 79-81 depend directly from independent claim 78 and incorporate all the elements of

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this claim as well as additional distinguishing features. Therefore, it is respectfully submitted that claims 45-49, 51-52, 54-55, 57-58, 63, 65, 67, 69, 71, 73-77 and 79-81 are patentable, and thus allowable, at least for the reasons set forth above.

Accordingly, it is respectfully requested that the rejection of claims 45-49, 51-52, 54-55, 57-58, 63, 65, 67, 69, 71, 73-77 and 79-81 under 35 U.S.C. §102(e) be withdrawn.

35 U.S.C. § 103 Rejections

In the Office Action, the Examiner rejected claims 59-61 under 35 U.S.C. § 103(a), as being unpatentable over Bing et al., and further in view of Kapoor et al. (U.S. Patent No. 6,795,424).

In view of the above discussion with reference to claims 44, 50, 53, 56, 62, 64, 66, 68, 70, 72 and 78, it is respectfully asserted that Bing et al., and/or Kapoor et al., alone or in combination, do not disclose, teach or fairly suggest at least a channel divider to divide a frequency bandwidth of a channel into a plurality of frequency sub-channels; an allocator to allocate said plurality of frequency sub-channels the plurality of stations based on received signal strength of the stations; a transmitter to transmit a multicast transmission to said plurality of stations over substantially the entire frequency bandwidth of the channel; and a receiver to receive acknowledgement signals from said plurality of stations over said plurality of allocated frequency sub-channels, as recited by amended independent claim 59.

Therefore, it is respectfully submitted that amended independent claim 59 is patentable over Bing et al. in view of Kapoor et al.

Accordingly, it is respectfully requested that the rejection of claim 59 under 35 U.S.C. §103(a) be withdrawn.

Claims 60-61 depend directly from independent claim 59 and incorporate all the elements of this claim as well as additional distinguishing features. Therefore, it is respectfully submitted that claims 60-61 are patentable, and thus allowable, at least for the reasons set forth above.

Accordingly, it is respectfully requested that the rejection of claims 60-61 under 35 U.S.C. §103(a) be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance are respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-4238.

Respectfully submitted,

BORIS GINZBURG ET AL.

By their Representatives,

CUSTOMER NUMBER: 72517

/Naim Shichrur/

Naim Shichrur
Registration No. 56,248

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LEASON ELLIS LLP
81 Main Street, Suite 503
White Plains, New York 10601
Phone: (914) 288-0022
Facsimile: (914) 288-0023